

Recovery Plan Action Status

Plan Name: Recovery Plan for the Multi-Island Plants

Plan Status: Final

Plan Date: 10-Jul-99

Lead Agency: USFWS

Lead Office: Pacific Islands Fish And Wildlife Office

**(808)
792-9400)**

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
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Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Kamakahala (Lobelia triflora), No common name (Schiedea hookeri), No common name (Phyllostegia parviflora), No common name (Neraudia sericea), Pendant kihi fern (Adenophorus periens), Kamakahala (Lobelia tinifolia var. lanaiensis), No common name (Mariscus pennatifolius), No common name (Bonamia menziesii), No common name (Platanthera holochila), Haha (Cyanea glabra), No common name (Spermolepis hawaiiensis), Asplenium-leaved diellia (Diellia erecta), No common name (Achyranthes mutica), No common name (Sanicula purpurea), Kopa (Hedyotis schlechtendahlana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), (=Native yellow hibiscus) ma' o hau hele (Hibiscus brackenridgei), No common name (Vigna o-wahuensis), Na'ena'e (Dubautia plantaginea ssp. humilis), No common name (Schiedea nuttallii), 'Oha wai (Clermontia	1	11	Identify and map all extant wild populations	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, U.S. Department of Defense, National Park Service	Research: Population Surveys	Contract	This is an ongoing action, as the status of the species and their threats change constantly. NOTE: The tasks in this plan only cover the 10 species in the addendum to the Multi-island plan.

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samuelii), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)										

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Kamakahala (Labordia triflora), No common name (Schiedea hookeri), No common name (Phyllostegia parviflora), No common name (Neraudia sericea), Pendant kihi fern (Adenophorus periens), Kamakahala (Labordia tinifolia var. lanaiensis), No common name (Mariscus pennatiformis), No common name (Bonamia menziesii), No common name (Platanthera holochila), Haha (Cyanea glabra), No common name (Spermolepis hawaiiensis), Asplenium-leaved diellia (Diellia erecta), No common name (Achyranthes mutica), No common name (Sanicula purpurea), Kopa (Hedyotis schlechtendahiana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), (=Native yellow hibiscus) ma' o hau hele (Hibiscus brackenridgei), No common name (Vigna o-wahuensis), Na'ena'e (Dubautia plantaginea ssp. humilis), No common name (Schiedea nuttallii), 'Oha wai (Clermontia	1	12	Delineate management units	Ongoing Not Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, Hawaii Department of Agriculture	Management: Planning	Contract, Internal Administrative, Internal Technical Assistance, Species Expert	This task has been initiated through the development of essential plant habitat by the HPPRCC and CH designations, but needs to be refined for each species and its full recovery needs.

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samuelii), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)										

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Kamakahala (Lobelia triflora), No common name (Schiedea hookeri), No common name (Phyllostegia parviflora), No common name (Neraudia sericea), Pendant kihi fern (Adenophorus periens), Kamakahala (Lobelia tinifolia var. lanaiensis), No common name (Mariscus pennatifolius), No common name (Bonamia menziesii), No common name (Platanthera holochila), Haha (Cyanea glabra), No common name (Spermolepis hawaiiensis), Asplenium-leaved diellia (Diellia erecta), No common name (Achyranthes mutica), No common name (Sanicula purpurea), Kopa (Hedyotis schlechtendahlana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), (=Native yellow hibiscus) ma' o hau hele (Hibiscus brackenridgei), No common name (Vigna o-wahuensis), Na'ena'e (Dubautia plantaginea ssp. humilis), No common name (Schiedea nuttallii), 'Oha wai (Clermontia	1	13	Ensure long-term protection of habitat	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, U.S. Department of Defense, National Park Service, Private landowners	Acquisition: Lease	Internal Administrative	This task is complete for watershed partnerships for East Maui, West Maui Mountains, and East Molokai; Lanaihale through a cooperative agreement with Castle and Cooke and the Service; and Kahoolawe Island Restoration Commission.

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samuelyi), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)										
Kamakahala (Lobordia triflora), Kamakahala (Lobordia tinifolia var. lanaiensis), Haha (Cyanea glabra), Kopa (Hedyotis schlechtendahlia var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), `Oha wai (Clermontia samuelyi), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)	1	1411	Construct and maintain fencing, wherever possible	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, U.S. Department of Defense, National Park Service, Private landowners	Management: Habitat Maintenance and Manipulation	Contract	Fencing is partially complete for East Molokai, East Maui, and West Maui Mountains watershed partnerships and Lanaihale. Fencing is complete for Haleakala National Park, Kamakou Preserve, Waikamoi Preserve, Pahole Natural Area Reserve.
Kamakahala (Lobordia triflora), Kamakahala (Lobordia tinifolia var. lanaiensis), Haha (Cyanea glabra), Kopa (Hedyotis schlechtendahlia var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), `Oha wai (Clermontia samuelyi), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)	1	1412	Evaluate the potential for eradication programs for control of ungulates or establishment of game preserves	Discontinued	FY 2000 - FY 2004		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Private landowners	Management: Habitat Maintenance and Manipulation	Contract	This task has been discontinued because the political climate in Hawaii at this time will not support island-wide eradication of nonnative ungulates, which are hunted for food.

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Kamakahala (Labordia triflora), Kamakahala (Labordia tinifolia var. lanaiensis), Haha (Cyanea glabra), Kopa (Hedyotis schlechtendahlana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), Na'ena'e (Dubautia plantaginea ssp. humilis), 'Oha wai (Clermontia samuelii), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)	1	142	Provide necessary fire protection	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, U.S. Department of Defense, National Park Service	Management: Habitat Maintenance and Manipulation	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Kamakahala (Lobelia triflora), No common name (Schiedea hookeri), No common name (Phyllostegia parviflora), No common name (Neraudia sericea), Pendant kihi fern (Adenophorus periens), Kamakahala (Lobelia tinifolia var. lanaiensis), No common name (Mariscus pennatifolius), No common name (Bonamia menziesii), Haha (Cyanea glabra), No common name (Spermolepis hawaiiensis), Kopa (Hedyotis schlechtendahlia var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), (=Native yellow hibiscus) ma' o hau hele (Hibiscus brackenridgei), No common name (Vigna o-wahuensis), Na'ena'e (Dubautia plantaginea ssp. humilis), No common name (Schiedea nuttallii), `Oha wai (Clermontia samuelii), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)	1	143	Provide necessary fire protection	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, U.S. Department of Defense, National Park Service	Management: Habitat Maintenance and Manipulation	Contract	

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Kamakahala (Lobelia triflora), Haha (Cyanea glabra), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), (=Native yellow hibiscus ma' o hau hele (Hibiscus brackenridgei), 'Oha wai (Clermontia samuelii), Haha (Cyanea hamatiflora ssp. hamatiflora)	1	144	Control rodents, if necessary	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, U.S. Department of Defense, National Park Service	Management: Predator and Competitor Control	Contract	Rodent control is currently only conducted within the immediate vicinity of those species which are known to be impacted by rodents, including species of the genera Clermontia, Cyanea and Melicope. Large-scale rodent control will not be possible until aerial pesticide application is registered for use in the state of Hawaii.

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Kamakahala (Lobelia triflora), No common name (Schiedea hookeri), No common name (Phyllostegia parviflora), No common name (Neraudia sericea), Pendant kihi fern (Adenophorus periens), Kamakahala (Lobelia tinifolia var. lanaiensis), No common name (Mariscus pennatifolius), No common name (Bonamia menziesii), No common name (Platanthera holochila), Haha (Cyanea glabra), No common name (Spermolepis hawaiiensis), Asplenium-leaved diellia (Diellia erecta), No common name (Achyranthes mutica), No common name (Sanicula purpurea), Kopa (Hedyotis schlechtendahiana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), (=Native yellow hibiscus) ma' o hau hele (Hibiscus brackenridgei), No common name (Vigna o-wahuensis), Na'ena'e (Dubautia plantaginea ssp. humilis), No common name (Schiedea nuttallii), 'Oha wai (Clermontia	1	145	Propagate and maintain genetic stock of each taxon ex situ	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Botanical Gardens, Hawaii Department of Land and Natural Resources, U.S. Department of Defense, National Park Service	Management: Propagation	Contract	The existing ex situ collections are not genetically adequate. The Maui Nui genetic safety net program, initiated in early 2006, will collect full genetic representation of all species with fewer than 50 individuals remaining in the wild on Molokai, Maui, and Lanai.

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samuelii), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)										

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Kamakahala (Labordia triflora), No common name (Schiedea hookeri), No common name (Phyllostegia parviflora), No common name (Neraudia sericea), Pendant kihi fern (Adenophorus periens), Kamakahala (Labordia tinifolia var. lanaiensis), No common name (Mariscus pennatiformis), No common name (Bonamia menziesii), No common name (Platanthera holochila), Haha (Cyanea glabra), No common name (Spermolepis hawaiiensis), Asplenium-leaved diellia (Diellia erecta), No common name (Achyranthes mutica), No common name (Sanicula purpurea), Kopa (Hedyotis schlechtendahliana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), (=Native yellow hibiscus) ma' o hau hele (Hibiscus brackenridgei), No common name (Vigna o-wahuensis), Na'ena'e (Dubautia plantaginea ssp. humilis), No common name (Schiedea nuttallii), 'Oha wai (Clermontia	1	146	Ensure availability of pollination vectors	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Department of Defense, National Park Service	Management: Other	Contract	For most species in this recovery plan, the pollinator still needs to be determined.

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samuelyi), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)										
Kamakahala (Labordia triflora), Kamakahala (Labordia tinifolia var. lanaiensis), Haha (Cyanea glabra), Kopa (Hedyotis schlechtendahlana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), Na'ena'e (Dubautia plantaginea ssp. humilis), `Oha wai (Clermontia samuelii), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)	1	147	Protect areas from human disturbance	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, U.S. Department of Defense, National Park Service, Private landowners	Management: Habitat Maintenance and Manipulation	Contract	
Haha (Cyanea glabra), Haha (Cyanea copelandii ssp. haleakalaensis), `Oha wai (Clermontia samuelii), Haha (Cyanea hamatiflora ssp. hamatiflora)	1	148	Control insects, slugs, snails, and/or disease, if necessary	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, U.S. Department of Defense, National Park Service	Management: Predator and Competitor Control	Contract	Most invertebrates and diseases are only controllable at a small scale immediately surrounding the endangered species. Additional research is needed on the impacts of these invertebrates to the species, as well as efficient, broadscale methods of control

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Kamakahala (Lobelia triflora), No common name (Scheuchzeria hookeri), No common name (Phyllostegia parviflora), No common name (Nerodia sericea), Pendant kihi fern (Adenophorus periens), Kamakahala (Lobelia tinifolia var. lanaiensis), No common name (Mariscus pennatifolius), No common name (Bonamia menziesii), No common name (Platanthera holochila), Haha (Cyanea glabra), No common name (Spermolepis hawaiiensis), Asplenium-leaved diellia (Diellia erecta), No common name (Achyranthes mutica), No common name (Sanicula purpurea), Kopa (Hedyotis schlechtendahlana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), (=Native yellow hibiscus) ma' o hau hele (Hibiscus brackenridgei), No common name (Vigna o-wahuensis), Na'ena'e (Dubautia plantaginea ssp. humilis), No common name (Scheuchzeria nuttallii), 'Oha wai (Clermontia	1	149	Control all other identified threats	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, U.S. Department of Defense, National Park Service, Private landowners	Management: Predator and Competitor Control	Contract, Internal Field Assistance, Species Expert	This task has not started because no other threats have been identified.

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samuelii), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)										

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Kamakahala (Labordia triflora), No common name (Schiedea hookeri), No common name (Phyllostegia parviflora), No common name (Neraudia sericea), Pendant kihi fern (Adenophorus periens), Kamakahala (Labordia tinifolia var. lanaiensis), No common name (Mariscus pennatiformis), No common name (Bonamia menziesii), No common name (Platanthera holochila), Haha (Cyanea glabra), No common name (Spermolepis hawaiiensis), Asplenium-leaved diellia (Diellia erecta), No common name (Achyranthes mutica), No common name (Sanicula purpurea), Kopa (Hedyotis schlechtendahiana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), (=Native yellow hibiscus) ma' o hau hele (Hibiscus brackenridgei), No common name (Vigna o-wahuensis), Na'ena'e (Dubautia plantaginea ssp. humilis), No common name (Schiedea nuttallii), 'Oha wai (Clermontia	2	21	Select populations for expansion	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, Private landowners	Management: Reintroduction	Contract	This task is limited based on the material available in ex situ collections.

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samuelii), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)										
Kamakahala (Labordia triflora), Kamakahala (Labordia tinifolia var. lanaiensis), Haha (Cyanea glabra), Kopa (Hedyotis schlechtendahliana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), Na'ena'e (Dubautia plantaginea ssp. humilis), `Oha wai (Clermontia samuelii), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)	2	22	Prepare sites and plant	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, Private landowners	Management: Reintroduction	Contract	This task is limited based on the material available in ex situ collections.

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Kamakahala (Labordia triflora), No common name (Schiedea hookeri), No common name (Phyllostegia parviflora), No common name (Neraudia sericea), Pendant kihi fern (Adenophorus periens), Kamakahala (Labordia tinifolia var. lanaiensis), No common name (Mariscus pennatiformis), No common name (Bonamia menziesii), No common name (Platanthera holochila), Haha (Cyanea glabra), No common name (Spermolepis hawaiiensis), Asplenium-leaved diellia (Diellia erecta), No common name (Achyranthes mutica), No common name (Sanicula purpurea), Kopa (Hedyotis schlechtendahliana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), (=Native yellow hibiscus) ma' o hau hele (Hibiscus brackenridgei), No common name (Vigna o-wahuensis), Na' ena' e (Dubautia plantaginea ssp. humilis), No common name (Schiedea nuttallii), 'Oha wai (Clermontia	2	31	Collect diagnostic data on crucial associated ecosystem components	Ongoing Not Current	Prior to FY 1995		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Habitat Requirements	Contract, Graduate Student, Internal Field Assistance, Species Expert	Critical habitat, and the suitable habitat from which critical habitat was derived, has been identified for all species in this recovery plan. Additional studies are needed to develop more precise microclimate needs for each species.

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Kamakahala (Lobelia sp.), No common name (Sida sp.), No common name (Phyllanthus sp.), No common name (Nerium sp.), Pendant kihi fern (Adiantum sp.), Kamakahala (Lobelia sp. var. lanaiensis), No common name (Mariscus pennatifolius), No common name (Bonania menziesii), No common name (Platanthera holochila), Haha (Cyanea glabra), No common name (Spermatophyte hawaiiensis), Asplenium-leaved diellia (Diellia erecta), No common name (Achyranthes mutica), No common name (Sanicula purpurea), Kopa (Hedyotis schlechtendahlana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), (=Native yellow hibiscus) ma' o hau hele (Hibiscus brackenridgei), No common name (Vigna o-wahuensis), Na'ena'e (Dubautia plantaginea ssp. humilis), No common name (Sida nuttallii), 'Oha wai (Clermontia	2	32	Map alien vegetation	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Habitat Status	Contract	This task is being conducted for some alien species by the various island based Invasive Species Committees and BRD's Hawaii Ecosystems at Risk, but a more concerted effort is needed.

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samuelii), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)										

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Kamakahala (Lobelia triflora), No common name (Schiedea hookeri), No common name (Phyllostegia parviflora), No common name (Neraudia sericea), Pendant kihi fern (Adenophorus periens), Kamakahala (Lobelia tinifolia var. lanaiensis), No common name (Mariscus pennatifolius), No common name (Bonamia menziesii), No common name (Platanthera holochila), Haha (Cyanea glabra), No common name (Spermolepis hawaiiensis), Asplenium-leaved diellia (Diellia erecta), No common name (Achyranthes mutica), No common name (Sanicula purpurea), Kopa (Hedyotis schlechtendahlana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), (=Native yellow hibiscus) ma' o hau hele (Hibiscus brackenridgei), No common name (Vigna o-wahuensis), Na'ena'e (Dubautia plantaginea ssp. humilis), No common name (Schiedea nuttallii), 'Oha wai (Clermontia	2	33	Study various aspects of growth	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Demographic Studies	Contract	The current knowledge has been gathered mainly from incidental observations during propagation, field surveys, and monitoring. More detailed experimental research is needed to fully understand this aspect of the species.

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samuelii), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)										

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Kamakahala (Lobelia triflora), No common name (Schiedea hookeri), No common name (Phyllostegia parviflora), No common name (Neraudia sericea), Pendant kihi fern (Adenophorus periens), Kamakahala (Lobelia tinifolia var. lanaiensis), No common name (Mariscus pennatifolius), No common name (Bonamia menziesii), No common name (Platanthera holochila), Haha (Cyanea glabra), No common name (Spermolepis hawaiiensis), Asplenium-leaved diellia (Diellia erecta), No common name (Achyranthes mutica), No common name (Sanicula purpurea), Kopa (Hedyotis schlechtendahiana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), (=Native yellow hibiscus) ma' o hau hele (Hibiscus brackenridgei), No common name (Vigna o-wahuensis), Na'ena'e (Dubautia plantaginea ssp. humilis), No common name (Schiedea nuttallii), 'Oha wai (Clermontia	2	34	Study reproductive viability	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Genetics	Contract	The current knowledge has been gathered mainly from incidental observations during propagation, field surveys, and monitoring. More detailed experimental research is needed to fully understand this aspect of the species.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
samuelii), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)										

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Kamakahala (Lobelia triflora), No common name (Schiedea hookeri), No common name (Phyllostegia parviflora), No common name (Neraudia sericea), Pendant kihi fern (Adenophorus periens), Kamakahala (Lobelia tinifolia var. lanaiensis), No common name (Mariscus pennatifolius), No common name (Bonamia menziesii), No common name (Platanthera holochila), Haha (Cyanea glabra), No common name (Spermolepis hawaiiensis), Asplenium-leaved diellia (Diellia erecta), No common name (Achyranthes mutica), No common name (Sanicula purpurea), Kopa (Hedyotis schlechtendahlana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), (=Native yellow hibiscus) ma' o hau hele (Hibiscus brackenridgei), No common name (Vigna o-wahuensis), Na'ena'e (Dubautia plantaginea ssp. humilis), No common name (Schiedea nuttallii), 'Oha wai (Clermontia	2	35	Determine parameters of viable populations	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Geological Survey, Biological Resources Division	Other: Regulations	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
samuelyi), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)										
Kamakahala (Lobordia triflora), Kamakahala (Lobordia tinifolia var. lanaiensis), Haha (Cyanea glabra), Kopa (Hedyotis schlechtendahliana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), Na'ena'e (Dubautia plantaginea ssp. humilis), 'Oha wai (Clermontia samuelii), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)	2	36	Determine effects of insects and/or diseases, and develop control methods, as needed	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Predation	Contract	
Kamakahala (Lobordia triflora), Kamakahala (Lobordia tinifolia var. lanaiensis), Haha (Cyanea glabra), Kopa (Hedyotis schlechtendahliana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), Na'ena'e (Dubautia plantaginea ssp. humilis), 'Oha wai (Clermontia samuelii), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)	2	37	Identify and test potential biocontrol agents for host specificity and efficacy of control	Ongoing Not Current	FY 1995 - FY 1999		Hawaii Department of Agriculture	Research: Management Techniques	Contract	Some testing has occurred for control of members of the Melastomataceae and for Christmas berry, but the biocontrol agents tested to date are not very effective.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Kamakahala (Lobelia triflora), No common name (Schiedea hookeri), No common name (Phyllostegia parviflora), No common name (Neraudia sericea), Pendant kihi fern (Adenophorus periens), Kamakahala (Lobelia tinifolia var. lanaiensis), No common name (Mariscus pennatifolius), No common name (Bonamia menziesii), No common name (Platanthera holochila), Haha (Cyanea glabra), No common name (Spermolepis hawaiiensis), Asplenium-leaved diellia (Diellia erecta), No common name (Achyranthes mutica), No common name (Sanicula purpurea), Kopa (Hedyotis schlechtendahlana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), (=Native yellow hibiscus) ma' o hau hele (Hibiscus brackenridgei), No common name (Vigna o-wahuensis), Na'ena'e (Dubautia plantaginea ssp. humilis), No common name (Schiedea nuttallii), 'Oha wai (Clermontia	2	38	Evaluate results and use in future management	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Research: Management Techniques	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
samuelii), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)										

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Kamakahala (Lobordia triflora), No common name (Schiedea hookeri), No common name (Phyllostegia parviflora), No common name (Neraudia sericea), Pendant kihi fern (Adenophorus periens), Kamakahala (Lobordia tinifolia var. lanaiensis), No common name (Mariscus pennatiformis), No common name (Bonamia menziesii), No common name (Platanthera holochila), Haha (Cyanea glabra), No common name (Spermolepis hawaiiensis), Asplenium-leaved diellia (Diellia erecta), No common name (Achyranthes mutica), No common name (Sanicula purpurea), Kopa (Hedyotis schlechtendahliana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), (=Native yellow hibiscus) ma' o hau hele (Hibiscus brackenridgei), No common name (Vigna o-wahuensis), Na'ena'e (Dubautia plantaginea ssp. humilis), No common name (Schiedea nuttallii), 'Oha wai (Clermontia	3	4	Develop and implement long-term monitoring programs for all species	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Botanical Gardens, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, U.S. Department of Defense, National Park Service	Research: Population Surveys	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
samuelii), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)										

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Kamakahala (Labordia triflora), No common name (Schiedea hookeri), No common name (Phyllostegia parviflora), No common name (Neraudia sericea), Pendant kihi fern (Adenophorus periens), Kamakahala (Labordia tinifolia var. lanaiensis), No common name (Mariscus pennatiformis), No common name (Bonamia menziesii), No common name (Platanthera holochila), Haha (Cyanea glabra), No common name (Spermolepis hawaiiensis), Asplenium-leaved diellia (Diellia erecta), No common name (Achyranthes mutica), No common name (Sanicula purpurea), Kopa (Hedyotis schlechtendahliana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), (=Native yellow hibiscus) ma' o hau hele (Hibiscus brackenridgei), No common name (Vigna o-wahuensis), Na'ena'e (Dubautia plantaginea ssp. humilis), No common name (Schiedea nuttallii), 'Oha wai (Clermontia	3	51	Investigate feasibility and desirability of reintroduction	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Planning, Management: Reintroduction	Contract, Graduate Student, Internal Technical Assistance, Species Expert	This task is considered for any species with fewer than 50 individuals remaining in the wild. The Maui Nui GSN program will look for reintroduction sites to conduct small-scale management and reintroduction for such species on Molokai, Maui, and Lanai.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
samuelii), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)										

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Kamakahala (Lobordia triflora), No common name (Schiedea hookeri), No common name (Phyllostegia parviflora), No common name (Neraudia sericea), Pendant kihi fern (Adenophorus periens), Kamakahala (Lobordia tinifolia var. lanaiensis), No common name (Mariscus pennatifolius), No common name (Bonamia menziesii), No common name (Platanthera holochila), Haha (Cyanea glabra), No common name (Spermolepis hawaiiensis), Asplenium-leaved diellia (Diellia erecta), No common name (Achyranthes mutica), No common name (Sanicula purpurea), Kopa (Hedyotis schlechtendahliana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), (=Native yellow hibiscus) ma' o hau hele (Hibiscus brackenridgei), No common name (Vigna o-wahuensis), Na'ena'e (Dubautia plantaginea ssp. humilis), No common name (Schiedea nuttallii), 'Oha wai (Clermontia	3	52	Develop and implement specific plans for reestablishment	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, U.S. Geological Survey, Biological Resources Division, Private landowners	Management: Planning, Management: Reintroduction	Contract, Graduate Student, Internal Technical Assistance, Species Expert	This task has not been started for any of the 10 species in this recovery plan.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
samuelii), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)										

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Kamakahala (Labordia triflora), No common name (Schiedea hookeri), No common name (Phyllostegia parviflora), No common name (Neraudia sericea), Pendant kihi fern (Adenophorus periens), Kamakahala (Labordia tinifolia var. lanaiensis), No common name (Mariscus pennatiformis), No common name (Bonamia menziesii), No common name (Platanthera holochila), Haha (Cyanea glabra), No common name (Spermolepis hawaiiensis), Asplenium-leaved diellia (Diellia erecta), No common name (Achyranthes mutica), No common name (Sanicula purpurea), Kopa (Hedyotis schlechtendahliana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), (=Native yellow hibiscus) ma' o hau hele (Hibiscus brackenridgei), No common name (Vigna o-wahuensis), Na'ena'e (Dubautia plantaginea ssp. humilis), No common name (Schiedea nuttallii), 'Oha wai (Clermontia	3	61	Determine number of populations and individuals needed for long-term survival	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Other: Regulations	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
samuelii), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)										

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Kamakahala (Lobelia triflora), No common name (Schiedea hookeri), No common name (Phyllostegia parviflora), No common name (Neraudia sericea), Pendant kihi fern (Adenophorus periens), Kamakahala (Lobelia tinifolia var. lanaiensis), No common name (Mariscus pennatifolius), No common name (Bonamia menziesii), No common name (Platanthera holochila), Haha (Cyanea glabra), No common name (Spermolepis hawaiiensis), Asplenium-leaved diellia (Diellia erecta), No common name (Achyranthes mutica), No common name (Sanicula purpurea), Kopa (Hedyotis schlechtendahlana var. remyi), Haha (Cyanea copelandii ssp. haleakalaensis), Kohe malama malama o kanaloa (Kanaloa kahoolawensis), (=Native yellow hibiscus) ma' o hau hele (Hibiscus brackenridgei), No common name (Vigna o-wahuensis), Na'ena'e (Dubautia plantaginea ssp. humilis), No common name (Schiedea nuttallii), 'Oha wai (Clermontia	3	62	Refine/revise downlisting and delisting criteria	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Other: Regulations	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
samuelii), Alani (Melicope munroi), Haha (Cyanea hamatiflora ssp. hamatiflora)										